

Support for the Amendments

The amendments are supported by the claims of the application as originally filed, and by paragraphs [0003]-[007], [0079], and [0082] of the specification. The amendments contain no new matter.

Remarks

Status of Claims

Claims 1-13 and new claims 22 and 23 are pending in the present application. Claims 14-21 are withdrawn from consideration without prejudice to their prosecution in any related continuation, divisional, or continuation-in-part application.

Introduction

The present invention relates to the adaptation of novel dry cleaning chemistries for use in methods in the home or similar laundering environment in a manner that is convenient and economical, consumer-safe, and environmentally sound. Although improvements in automatic consumer-operated washing machines and in cleaning agent formulations are steadily being made, as a general rule, conventional home laundering methods consume considerable amounts of water, energy, and time. Water-based methods are not suitable for some natural fiber fabrics, such as silks, woolens and linens, so that whole classes of garments and fabrics cannot be home laundered, but instead, must be sent out for professional dry cleaning. During water washing, the clothes become saturated with water and some fibers swell and absorb water. After washing, the water must be removed from the clothes. Typically, this is performed in a two-step process including a hard spin cycle in the washer and a full drying cycle in an automatic dryer. The hard spin cycles tend to cause undesirable wrinkling. Even after spinning, drying cycle times are undesirably long.

The solution to this problem was the advent of the traditional dry cleaning business. Consumers had to travel to the dry cleaners, drop off clothes, pay for dry cleaning, and pick the clothes up. While the dry cleaning process is useful to the consumer, it plays terrible havoc with the environment. Traditional dry cleaning uses halogenated hydrocarbons, such as perchloroethylene (also known as "perc"). Because the use of perc is calamitous, strict environmental regulations exist to control its use and disposition. The stricter controls sent many in the dry cleaning industry towards petroleum-based solvents. These solvents are inflammable and are smog-producers. Accordingly, the use of these solvents in the home is out of the question. Likewise, conventional dry cleaning solvents and formulations are not suitable for use in methods of laundering fabric articles in a conventional automatic consumer-operated laundering apparatus.

The present invention achieves a technical advance to solve the foregoing problems associated with adapting conventional dry cleaning methods for convenient and safe use in the home environment and related consumer-operated laundering facilities such as those often found in dormitories or conventional laundromats.

Election/Restrictions

The examiner has issued a restriction requirement under 35 U.S.C. § 121, wherein the examiner has construed claims 1-21 to be two distinct inventions:

Group I. Claims 1-13, drawn to methods of cleaning fabrics, classified in class 8, subclass 137.

Group II. Claims 14-21, drawn to methods of treating wash liquor and reclaiming waste, classified in class 8, subclass 141.

In a telephone conversation on September 9, 2005 with the examiner, Applicants' representative, Mr. John Culligan, made a provisional election, with traverse, of Group I comprising claims 1-13, drawn to methods of cleaning fabrics, classified in class 8, subclass 137. Applicants now affirm this election of Group I, with traverse.

As stated in the Introduction, the kernel of the invention in the instant application is the adaptation of novel chemistries in non-aqueous cleaning methods for convenient and safe use in the home environment and related consumer-operated laundering facilities. The methods of claims 1-13 may require special handling of the wash liquor compositions following the cleaning treatment of the fabric articles. This is attributed to the fact that the working fluid present in the wash liquor compositions may not be disposed of in the conventional manner that is normally associated with conventional aqueous-based cleaning solutions.

Claims 14-21 provide the solution to the handling problems associated with the wash liquor composition that arise in practicing claims 1-13. Because claims 1-13 should be practiced with the inclusion of adequate safeguards with respect to the processing of the used wash liquor composition, claims 1-13 and 14-21 should not be restricted into separate groups. Furthermore, new claim 22 represents the combination of original claims 1 and 14, while new claim 23 represents the combination of original claims 1 and 19. Applicants maintain that conducting a search of the prior art directed to methods of using wash liquor compositions of claims 1-13 and new claims 22 and 23 will also retrieve results of prior art relevant to the examination of claims 14-21. Thus, there is no additional burden imposed upon the Office in permitting the

examination of claim 1-21 as a single group, and the examiner has not made an assertion to this effect as a basis for supporting the restriction requirement.

In view of these remarks, Application respectfully request withdrawal of the restriction requirement.

Claim Rejections under 35 U.S.C. § 112, ¶2

The examiner has rejected claims 2, 4, 7, 8, 10 11, and 12 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. Applicants respectfully submit the following remarks with regard to each of the examiner's grounds for the claim rejections.

(a) Rejection of Claims 2 and 4

The examiner has rejected claims 2 and 4 because they only describe properties of compositions without reference to the actual chemical compounds which may comprise the claimed compositions. The examiner cites the following decisions from Patent Office Board of Patent Appeals and Interferences ("Board") in support of this proposition: Ex parte Spacht, 165 USPQ 409 (BdPatApp&Int 1970); Ex parte Slob, 157 USPQ 172 (BdPatApp&Int 1968); and Ex parte Pulvari, 157 USPQ 169 (BdPatApp&Int 1968).

Applicants respectfully traverse these rejections on two grounds. First, Applicants note that the claims under review in the instant case are distinguishable from the limitations at issue in each of the Board decisions cited by the examiner. Importantly, each of the decisions focuses on a claim limitation that is defined in the context of one single property that is demonstrably broad and vague on its face because the objected-to property is not susceptible to measurement that would permit clear definition of the meets and bounds of the claim (see Ex parte Spacht, 165 USPQ 409, 410 (BdPatApp&Int 1970), (noting that the use of the term "oxidation" in an inconsistent, potentially inaccurate manner that makes the claim broader than the enabling disclosure and, more significantly, may include in the claim language examples that actually do not work); Ex parte Slob, 157 USPQ 172, 173 (BdPatApp&Int 1968) (noting that a compound "being compatible with the ingredients in the powdered detergent composition" is indisputably vague and overbroad because the claim would appear "to read upon materials that could not possibly be used with a powdered detergent composition to accomplish the purposes intended."); and Ex parte Pulvari, 157 USPQ 169, 171 (BdPatApp&Int 1968) (noting that while the claim at

issue was properly rejected because the claim was directed merely to a desired result, other claims having limitations directed to a new combination of substances with only one element or constituent of that combination being expressed as a result were deemed definite).

In the instant application, claims 2 and 4 are definite because they recite the limitations (i.e., “working fluid” of claim 2 and “surfactant” of claim 4) in measurable, finite terms. The “working fluid” of claim 2 must be a fluid having three measurable, finite characteristics: (1) a KB value less than approximately 30; (2) a surface tension less than approximately 35 dynes/cm²; and (3) a solubility in water less than 10%. Likewise, the “surfactant” of claim 4 must be a compound having a hydrophilic-lipophilic balance from approximately 3 to 14. Each of these limitations are definite because they are finite in character and can be ascertained through precise measurement.

Second, the Federal Circuit has held that a claim is indefinite if, when read in light of the specification, it does not reasonably apprise those skilled in the art of the scope of the invention. Amgen Inc. v. Hoechst Marion Roussel, 314 F.3d 1313, 1342 (Fed. Cir. 2003). Likewise, if a claim, when read in light of the specification, reasonably apprises those skilled in the art of the scope of the invention, it is definite within the meaning of 35 U.S.C. § 112(¶ 2). SmithKline Beecham Corp. v. Apotex Corp., 403 F.3d 1331, 1352 (Fed. Cir. 2005). Applicants maintain that one of ordinary skill in the art would understand the meets and bounds of claims 2 and 4 by reviewing the specification that describes each limitation. Thus, one of ordinary skill in the art would understand the “working fluid” limitation of claim 2 includes a fluid selected from the group that includes a fluoroinert, a hydrofluoroether, a perfluorocarbon, a fluorinated hydrocarbon, a Class 3-A solvent, a cyclic siloxane, a linear volatile siloxane, and a branched volatile siloxane (see Applicants’ specification at paragraphs [0119]-[0127]), and the “surfactant” of claim 4 includes a compound selected from the group that includes an anionic surfactant, a cationic surfactant, a nonionic surfactant, a Zwitterionic surfactant, an amphoteric surfactant, an alkylbenzene sulfonate, an ethoxylated alkyl phenol, an ethoxylated fatty alcohol, an alkylester alkoxylate, an alkyl sulfonate, a quaternary ammonium complex, a block propyleneoxide, ethyleneoxide copolymer, a sorbitan fatty ester, a sorbitan ethoxylate, a Tergitol, a tridecylalcohol ethoxylate, an alkanolamide, a sodium lauryl sulfonate, a sodium stearate, a sodium laureth sulfate, an ammonium lauryl ether sulfonate, and a silicone surfactant (see Applicants’ specification at paragraphs [0130]-[0133]).

Applicants respectfully request withdrawal of rejection of claims 2 and 4 under 35 U.S.C.

§ 112, second paragraph as being indefinite in view of these remarks.

(b) Rejection of Claim 7

The examiner has rejected claim 7 because it recites the limitation “described in paragraph 82 of the specification.” These rejections have been obviated through appropriate amendment.

(c) Rejection of Claims 8 and 11

The examiner has rejected claims 8 and 11 because they involve the removal of water from the working fluid, and the examiner notes that working fluid has been defined in claim 1 as non-aqueous. These rejections have been obviated through appropriate amendment.

(d) Rejection of Claim 10

The examiner has rejected claim 10 because it recites the limitation “described in paragraph 79 of the specification.” These rejections have been obviated through appropriate amendment.

(e) Rejection of Claim 12

The examiner has rejected claim 12 because it recites the limitation “in which the cooling step is avoided.” These rejections have been obviated through appropriate amendment.

Claim Rejections under 35 U.S.C. § 103

The examiner has rejected the claims under 35 U.S.C. § 103(a) as being unpatentable with respect to three prior art combinations. Applicants address each of these grounds of rejection below.

(a) Rejection of Claims 1-5 and 13

The examiner has rejected claims 1-5 and 13 as being unpatentable over Flynn et al. (U.S. Patent No. 5,962,390) in view of Pigors (U.S. Patent 3,691,649).

Applicants traverse these claim rejections by amendment of the claims, as further elaborated herein. Flynn et al. discloses conventional cleaning solvents used to clean fabric articles, rinsing out the cleaning solvents, and drying the fabric article. The examiner admits that

Flynn et al. does not teach or suggest the step of agitating/rotating in opposite directions as claimed in claims 1 and 5. The examiner states that Pigors teaches washing drums which rotate in one direction and then in the opposite direction while hot air is directed into the wash. The examiner asserts that it would be obvious to one of ordinary skill in the art to combine Pigors with Flynn et al. because Flynn et al. invites the inclusion of “any conventional agitation means.”

Applicants note that Pigors discloses a conventional aqueous-based washing machine that is fitted with an air blower to provide a drying function once the washing cycle is completed. Pigors does not teach or suggest that the disclosed washing machine is suitable to receive a fabric load and a wash liquor composition that comprises a substantially non-reactive, non-aqueous, non-oleophilic, apolar working fluid and at least one washing adjuvant. For this reason, Flynn et al. does not invite inclusion of the washing machine of Pigors in the method of Flynn et al. to clean fabric articles by any conventional agitation means.

Applicants argue that the examiner has engaged in classic hindsight by finding that the combination of Flynn et al. and Pigors teaches all the limitations of claims 1-5 and 13. The examiner has not explained how one of ordinary skill in the art would modify the washing machine of Pigors for use with the caustic chemistries and methods of Flynn et al. based upon these disclosures. The combination is uniquely found in only the claims of the instant application.

Applicants respectfully request withdrawal of rejection of claims 1-5 and 13 as being unpatentable over Flynn et al. (U.S. Patent No. 5,962,390) in view of Pigors (U.S. Patent 3,691,649).

(b) Rejection of claims 8, 9, and 11

The examiner has rejected claims 8, 9, and 11 as being unpatentable over Flynn et al. (U.S. Patent No. 5,962,390) in view of Pigors (U.S. Patent 3,691,649) and further in view of Krugmann (U.S. Patent No. 4,252,546). The Examiner admits that neither Flynn et al. nor Pigors teaches or suggests methods of filtering solidified water from the working fluid. The examiner states that this teaching is provided by Krugmann.

Applicants respectfully traverse these claim rejections. Applicants note that claims 8 and 9 depend from claim 7, which in turn, depends from claim 1 and that claim 11 depends from claim 10, which in turn, depends from claim 1. Applicants renew their arguments articulated supra with respect claim 1 as being patentable over the combination of Flynn et al. (U.S. Patent

No. 5,962,390) and Pigors (U.S. Patent 3,691,649).

In addition, Applicants note that Krugmann teaches that the water ice crystals float along with excess dry cleaning solvent out into a separating container (3:9-11). This reference also teaches that the ice crystals immediately melt to water outside an insulating container (3:11-12). This reference teaches further that the basis of separating the dry cleaning solvent from the newly-formed water is due to their differences in specific gravity (3:12-14). Thus, Krugmann does not teach or suggest that the water ice crystals are separated by filtration, per se, as required by the claims of the instant application.

Applicants respectfully request withdrawal of rejection of claims 1-5 and 13 as being unpatentable over Flynn et al. (U.S. Patent No. 5,962,390) in view of Pigors (U.S. Patent 3,691,649) and further in view of Krugmann (U.S. Patent No. 4,252,546).

(c) Rejection of claim 13

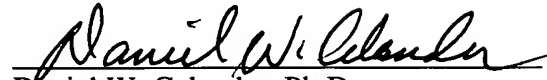
The examiner has rejected claim 13 as being unpatentable over Flynn et al. (U.S. Patent No. 5,962,390) in view of Pigors (U.S. Patent 3,691,649) and further in view of De Pas et al. (U.S. Patent No. 3,163,028). The examiner states that Flynn et al. and Pigors are relied upon as set forth in the examiner's grounds for rejecting claims 1-5 and 13. The examiner then states that these references do not teach methods of decreasing the absolute pressure in the chamber as claimed in claim 13. The examiner states that this limitation is provided by the teachings of De Pas et al.

Applicants respectfully traverse this claim rejection. Applicants note that claim 13, either in its original or amended forms, does not include any material limitation drawn to a step of decreasing the absolute pressure in the chamber. Applicants respectfully requests withdrawal of this claim rejection as being unpatentable over Flynn et al. (U.S. Patent No. 5,962,390) in view of Pigors (U.S. Patent 3,691,649) and further in view of De Pas et al. (U.S. Patent No. 3,163,028).

Applicants submit that all pending claims of the present application are in condition for allowance. Early notice of such action is earnestly solicited.

Respectfully submitted,

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